FACT SHEET

U.S. Department of Energy
Grand Junction Office

Pinellas Environmental Restoration Project: Groundwater Remediation at the Wastewater Neutralization Area at the Young-Rainey STAR Center, Largo, Florida

The U.S. Department of Energy (DOE) is performing ongoing remediation of contaminated groundwater at the Wastewater Neutralization Area at the Young-Rainey Science, Technology, and Research (STAR) Center. This cleanup is being conducted as part of the Pinellas Environmental Restoration Project that is managed by the DOE Grand Junction Office.

Background

The Young-Rainey Science, Technology, and Research (STAR) Center is a former U.S. Department of Energy (DOE) facility located in Largo, Florida. Parts of the site are contaminated with organic solvents and metals used during the manufacture of neutron generators and other devices. In keeping with DOE's desire to contribute to economic development in the Tampa Bay region, DOE sold the facility to the Pinellas County Industrial Council on March 17, 1995. The sales contract included clauses to ensure continued compliance with federal, state, and local regulations while DOE completes remediation at the site.

In 1999, the Pinellas County Industrial Council was disestablished and ownership of the STAR Center changed to the Pinellas County government. The facility houses more than 20 businesses that range from administrative to light manufacturing. The Industrial Wastewater Neutralization Facility (see Figure 1) is located in the west central area of the STAR Center (Figure 2).

As a result of historic waste disposal practices, contamination exists in the subsurface. The contaminated areas are designated as solid waste management units. Four units at the STAR Center have contamination in the surficial aquifer groundwater at levels in excess of protective standards and are undergoing remediation. The Wastewater Neutralization Area is one of the solid waste management units that requires remediation.

Groundwater Treatment and Source Removal

The Wastewater Neutralization Area (Figure 2) includes the area south of Building 200, near the Industrial Wastewater Neutralization Facility. The Industrial Wastewater Neutralization Facility currently receives sanitary and industrial wastewater from the STAR Center industrial operations, neutralizes the water, and discharges it to the publicly owned treatment works.

Concentrations of arsenic, trichloroethene, and vinyl chloride were detected in the groundwater above federal and state regulatory limits in 1997. Arsenic contamination is the principal concern, as the trichloroethene and vinyl chloride concentrations are at low levels. The origin of the contamination in this area is not known.

A groundwater recovery well was installed to begin remediation of the Wastewater Neutralization Area in 1998. Two recovery wells were installed in September 2000 to replace the single recovery well. The contaminated groundwater is pumped from the subsurface and piped to the Industrial Wastewater Neutralization Facility. The Industrial Wastewater Neutralization Facility water is discharged to the publicly owned treatment works. The discharge

Figure 1. Industrial Wastewater Neutralization Facility

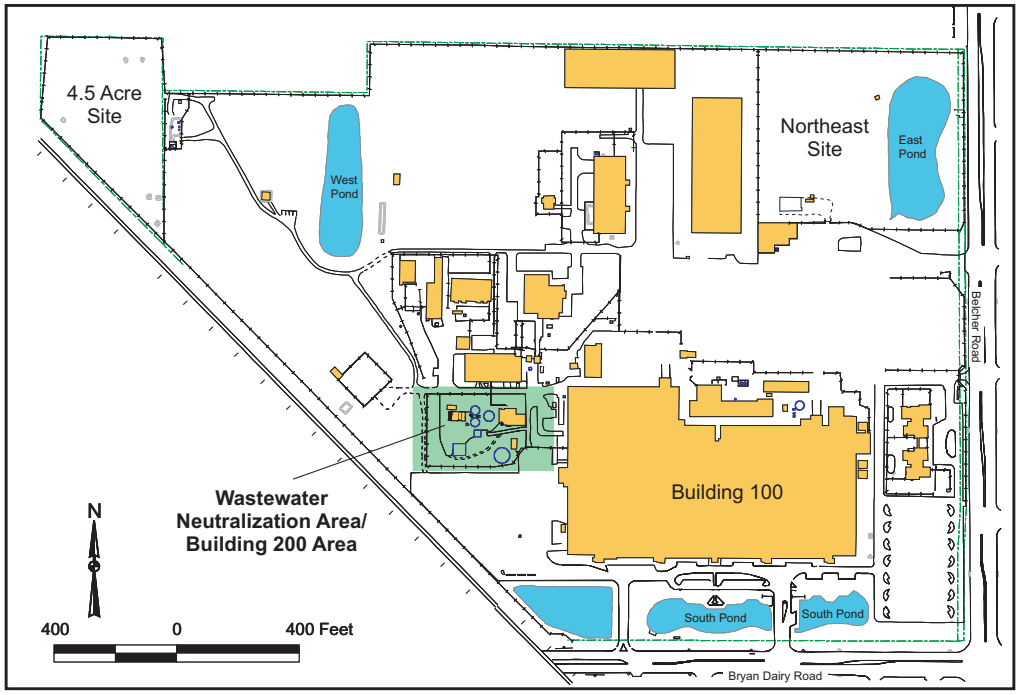

Figure 2. Location of Wastewater Neutralization Area

from the Industrial Wastewater Neutralization Facility is sampled regularly to confirm that contaminant concentrations in the wastewater are below regulatory limits.

Extensive soil sampling was conducted at the Wastewater Neutralization Area in 1998 to identify areas of soil with elevated arsenic contamination. In 1999, approximately 22 cubic yards of soil was removed from the areas with the highest arsenic concentrations. This action removed the source of arsenic contamination.

To evaluate the effectiveness of the treatment, groundwater samples are collected from 27 monitor wells on a quarterly basis. The use of recovery wells to remove contaminated groundwater from the subsurface has been effective in reducing arsenic concentrations and confining the plume to the Wastewater Neutralization Area. Groundwater remediation will continue until the groundwater meets the applicable federal standards for arsenic concentrations in drinking water.

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Additional information and fact sheets about the Pinellas Environmental Restoration Project at the Young-Rainey STAR Center are available on the Internet at **http://www.gjo.doe.gov/Pinellas/index.htm**.